

COPY II **64/128TM**

BACKUP YOUR PROTECTED DISKS!

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Introduction

This manual describes Copy II 64/128, which includes both a powerful disk utility package and a sophisticated Bit Copy program. The Disk utilities allow you to prepare diskettes for use (format), erase files from a disk (delete), and load files faster than ever before. The Bit Copy program can make backups of valuable software that has been copy protected. You can also use it as a general purpose disk copy program to make backups of your important programs and data files.

Copy II 64/128 is not copy protected in any way. You can make a backup of this disk using Copy II 64/128 itself, or any standard Commodore 64 or 128 copy program. This does not mean that it is not copyrighted (it is), and we ask for your respect in not making copies for any reason other than archival backup (thank you).

Hardware Requirements

Copy II 64/128 fully supports both the Commodore 64 and 128 computers and either one or two 1541 or 1571 drives. The Commodore 64 or 128 computer must be in 40 column mode to run Copy II 64/128.

Disk backup time with one 1541, Indus GT, or 1571 drive is approximately two minutes. If you have two 1541 or 1571 drives backup time is only one minute. Making backups of double-sided diskettes using a Commodore 128 and two 1571 drives in 128 mode takes about two minutes.

What You Need to Know

This manual assumes that you are familiar with the operation of your Commodore 64 or 128 computer and the 1541 or 1571 disk drive. If you need more information about them, please consult the appropriate owner's guide that accompanied your computer and disk drive.

of copy protection schemes. Enclosed with this package is our most recent "backupables" sheet which lists the programs the Bit Copy program has been tested with along with any special instructions that may be needed. We suggest you take a brief look at this sheet now, although we'll describe it in more detail later in the manual.

All the options in Copy II 64/128 are menu driven so you won't need to memorize anything. In fact, after you read this manual once, you probably won't ever need to look at it again - that's how easy Copy II 64/128 is to use!

Getting Started with Copy II 64/128

If you have a Commodore 128 computer, starting Copy II 64/128 couldn't be easier. Just insert the Copy II 64/128 disk into the drive and turn it and your computer on (if they are already on, simply press the reset button on the right side of the computer). After just a few moments, you'll see the main Copy II menu as shown below.

If you have a Commodore 64 computer, start Copy II 64/128 just as you would any other program. Turn on your computer and drive then insert the Copy II disk into the drive. Next, type:

```
LOAD "*",8,1
```

The main Copy II menu should look similar to this:

COPY II 64/128 VERSION x.x

1. COPY II 64/128 BIT COPY
2. DELETE FILES
3. QUICK FORMAT
4. RETURN TO BASIC
(QUICK LOADER ACTIVE)

Bit Copy Program

Option 1 is the Bit Copy program that will allow you to make backups of your disks.

The Bit Copy program can use one or two drives (however if you are using the Commodore 128 in 128 mode, only one drive is supported. If you are in 64 mode, you can use both drives. Therefore, if you wish to use two disk drives, make sure you start Copy II 64/128 in 64 mode.)

After you select option 1 from the menu by pressing the 1 key on your keyboard, you will see a screen that will let you assign your drives different numbers if you have more than one drive. It should look similar to this:

IF YOU HAVE ONE DRIVE, PRESS (RETURN)

IF YOU HAVE TWO DRIVES AND THEY ARE
DIFFERENT PHYSICAL DRIVE NUMBERS PRESS (RETURN)

IF YOU HAVE TWO DRIVES AND THEY ARE BOTH
DRIVE EIGHT (THE FACTORY SETTING)...

TURN ON THE DRIVE YOU WISH TO CHANGE,
THEN PRESS THE F1 KEY TO CONTINUE

If you have one disk drive, you will always want to press the key marked "RETURN" when you see this screen. After you press the return key, skip to the section titled "Using One Drive".

If you have two drives, and one of them has been modified to make it respond to a device number other than eight, then you will also want to press the return key. Skip to the section titled "Using Two Drives".

If however, you have two drives and they are both unmodified, you will need to press the F1 key to allow Copy II 64/128 to assign them different device numbers. Your Commodore 64 or 128 computer uses device numbers to "talk" to any equipment that you plug into it. Drives as supplied by Commodore are assigned the device number "8". If you have purchased two drives, then they both have a device number of 8. Copy II 64/128 will not be able to use two drives if they have the same device number as both drives will think they are supposed to have the original disk (the one you are trying to backup) and neither will know what to do with the blank disk you are trying to copy onto.

When you press the F1 key, Copy II 64/128 will present you with the following message:

NOW CHOOSE A DEVICE NUMBER FOR THE DRIVE
THAT IS STILL ON. (THE DRIVE THAT IS OFF
WILL REMAIN AS DRIVE EIGHT.)

F1 WILL SELECT DEVICE 9
F2 WILL SELECT DEVICE 10
F3 WILL SELECT DEVICE 11

Pressing the F1, F2 or F3 key will now select the unique device number for the drive that is still turned on. We suggest pressing the F1 key, although device numbers of 10 and 11 work equally well.

After you have selected the new device number for the drive that is still turned on, Copy II 64/128 will ask you to go ahead and turn back on the drive you turned off earlier. You should see:

TURN ON THE DRIVE THAT IS OFF

PRESS RETURN TO CONTINUE

Now Copy II 64/128 is ready to go. Your two drives have different device numbers so Copy II can talk to both of them as needed. After a few seconds, you should see the main Bit Copy menu. It will look slightly different depending upon whether you are using one or two drives. Since you have two drives, skip ahead to the section titled "Using Two Drives".

Using One Drive

The one-drive Bit Copy menu looks similar to the following:

COPY II 64/128 BIT COPY PROGRAM
(C) 1985 CENTRAL POINT SOFTWARE, INC.

ENTER DRIVE : DEFAULT = 8

ENTER # OF SIDES : DEFAULT = 1

ENTER START TRACK : DEFAULT = 1

ENTER ENDING TRACK : DEFAULT = 38

ENTER TRACK INCREMENT : DEFAULT = 1

RETURN TO BEGIN Q TO QUIT
F1 TO RESTART / TO MODIFY

The cursor (a blinking white box) will be over the "8" on the line that says "ENTER DRIVE". The word "default" means that unless you type in something different than what is shown, that will be the value used. For this prompt, it means that if you just press the "RETURN" key, a value of 8 will be used for the drive device number. In almost every case (unless you have been tinkering around inside your drive) this is what you want. Drives as they come from the factory are always set as device 8, so we recommend that you always "take the default" setting of 8.

The next prompt is for people who have a Commodore 128 computer and a 1571 drive (you won't see it if you have a Commodore 64 and/or 1541). It allows you to specify a two sided copy. This is especially useful for making backups of data disks or software written exclusively for the 1571 drive. Normally, however, you will take the default as virtually all Commodore software is supplied on single-sided disks so it will work on both 1541 and 1571 drives.

Now skip over this next section (which is for people who have two drives on their computer) and continue at the section titled "Selecting Which Tracks to Copy".

Using Two Drives:

The two-drive menu for Copy II 64/128 look similar to the following:

COPY II 64/128 BIT COPY PROGRAM
(C) 1985 CENTRAL POINT SOFTWARE, INC.

ORIGINAL DRIVE : DEFAULT = 8

DUPLICATE DRIVE : DEFAULT = 9

ENTER START TRACK : DEFAULT = 1

ENTER ENDING TRACK : DEFAULT = 38

ENTER TRACK INCREMENT : DEFAULT = 1

RETURN TO BEGIN Q TO QUIT
F1 TO RESTART / TO MODIFY

The cursor (a blinking white box) will be over the "8" on the line that says "ORIGINAL DRIVE". The word "default" means that unless you type in something different than what is shown, that will be the value used. For this prompt, it means that if you just press the "RETURN" key, a value of 8 will be used for the original drive device number. In almost every

case (unless you have been tinkering around inside your drive) this is what you want. The original drive is the drive that will hold the original disk (the one you want to copy).

When you press the "return" key, you will see the cursor has moved to the "9" after the "DUPLICATE DRIVE" prompt. This is asking you to enter the device number assigned to the drive that will hold the copy of the original disk. Enter the device number you assigned to this drive earlier (or the device number your drive has been modified to respond to).

Selecting Which Tracks to Copy

The next 3 lines ask you if you want to specify what part of the disk to copy. A standard Commodore disk is divided into 35 tracks (and either one or two sides on a 1571 drive). These tracks are like grooves on a record except that instead of spiralling inward, they are individual concentric circles around the disk. Each track is similar to a strip of magnetic tape (like what is inside a cassette). You can see by looking at the menu that Copy II 64/128 lets you specify which tracks to copy. You will almost never need to change these, so in nearly every case, just press the "return" key to take the default value shown.

If you look at the "Backupable" sheet we mentioned earlier, you will notice that a few of the programs have special instructions. They may say something like:

T1-T35
T36, SET PARM S TO F

Each line in the special instructions is a separate copy step. For example, the first line says set the start track to 1 (which is its default setting) and the end track to 35 (the default setting is 38). Since it doesn't say anything about track increment, you would take the default setting and leave it at 1. You would then start the backup and when it was done, you would follow the instructions on the second line.

In the above example, this would mean set both the start and end tracks to 36 (and change a parameter, which we'll explain in a moment).

Fortunately, very few disks require changing any of the default settings, so you'll almost never need to worry about changing the track start, end, and increment or changing parameters.

Starting the Backup

On the bottom of the menu, you can see four choices. Here they are again:

RETURN TO BEGIN	Q TO QUIT
F1 TO RESTART	/ TO MODIFY

If everything looks correct on the screen and you have inserted both the original and duplicate disks (if you are using two drives), go ahead and press the "return" key now to start making your backup.

If you are using a single drive, Copy II 64/128 will prompt you when to change diskettes. You will probably need to swap the original and duplicate disks a few times before the copy is complete. On a very full disk, it may take several passes to completely transfer all the data. If the disk is mostly empty, you may not need to swap disks at all.

When using the single drive program, you will also notice that the drive continues to spin even when it is prompting you to insert the original and duplicate disks. This is normal and does not indicate a problem.

IMPORTANT! Please be very careful to make sure you have the right disk in the drive at all times. Copy II 64/128 does not force you to write-protect your original disk, BUT WE HIGHLY

RECOMMEND THAT YOU DO SO BEFORE YOU START MAKING A BACKUP. By doing this, even if you accidentally put the original disk in the drive when Copy II 64/128 is asking for the duplicate disk, you cannot hurt your original.

Quitting Copy II 64/128 or Starting Over

If you have made a mistake and want to start over, press the F1 function key. The menu will be restored to its original configuration and you can re-enter your choices.

If you are done making backups, press the "Q" key to quit Copy II 64/128.

Changing Parameters (the "/" command)

The last option is the "/" (modify) command. This lets you customize Copy II 64/128 for various special protection schemes. While you will hardly ever need to use the / command, there are a few disks on the market that you will not be able to backup without using it.

If you press the "/" key, you will see a menu on the bottom of the screen that looks like this:

- PARAMETER CHANGE -

CHANGE WHAT PARAMETER:

There are currently three different parameters that can be set with the one drive version of Copy II 64/128. These are:

S parameter (sectors per track) default = V
D parameter (data rate change) default = N
C parameter (compress data) default = Y

To change parameters, use the left/right cursor arrow keys and the selected parm will change automatically.

On the two drive version, the C parameter is not available, but because of the way the two drive program works, it isn't needed.

Here is a detailed description of each of the above parameters. Remember that you don't need to understand them to use them to make backups. The following descriptions are provided only to satisfy your curiosity.

The S parameter helps Copy II 64/128 determine how to handle the number of sectors on a track. Earlier, we told you that a disk is divided into several concentric circles, called tracks. Actually, each track is also divided into several pieces, called sectors. The usual (default) value for this parameter tells the program to expect to find an unusual number of sectors on each track. This allows the program to reproduce regular tracks, as well as most of those tracks that are protected by writing a non-standard number of sectors. A Commodore disk actually puts a different number of sectors on a track, depending upon which track "range" it is in. The following is a table that shows the number of sectors that normally appear on each track. (Note the information shown for side two will only exist on disks formatted with the 1571 drive and a Commodore 128 computer.)

Track Number	Number of Sectors
01 TO 17	21
18 TO 24	19
25 TO 30	18
31 TO 35	17

The normal (default) setting of the S parameter to "V" will copy most software that uses any number of sectors in any track range. The only time it is changed to "F" is when there

been written at a nonstandard "data rate" for that track. As explained above, there are four different track ranges on a Commodore disk, and each range has a different number of sectors. Each range holds a different amount of data (sectors) as it is written at a different rate. You can think of this as electronically changing the drive speed for each range. The "slower" the drive spins (actually the faster the data is written out to the disk), the more data can fit on a track.

Some software protection schemes use the ability of the 1541 and 1571 drives to write data at an unexpected data rate as means of keeping their disks from being read by normal disk backup programs. Very few programs use this scheme, however, and when it is used, it is noted on the "backupable" sheet included with Copy II 64/128.

There are 4 possible data rates on a Commodore disk. Here is a table listing the track range and the standard data rate for tracks within that range:

Track Number	Data Rate
1 TO 17	4
18 TO 24	3
25 TO 30	2
31 TO 35	1

Changing the data rate is done by using the left and right cursor keys. When the rate you wish to set is shown, press the return key and you will be ready to begin the backup process using the new rate.

The "C" parameter (compress sectors) lets you disable the encoding and decoding of sector data as it is transferred from the drive to the computer and back again. This is only done if you are using a single drive. The reason you normally want this on ("Y" for yes) is that sectors take up less room if they are decoded. Since the computer holds all the sectors in

its memory between disk swaps, the less memory each sector takes up, the fewer disk swaps you will have to make.

Sometimes, however, decoding and encoding the data doesn't work. A few protection schemes use non-standard values to encode and decode the data so the normal Commodore encode/decode doesn't work. Again, very few programs use this scheme and where it is necessary to change the "C" parameter, the "backupables" will let you know.

Delete Files

If you select option 2 from the main Copy II 64/128 menu, you will see a screen that looks similar to the following:

COPY II 64/128 VERSION x.x

DELETE FILES

DELETE WHAT FILE ?

:TEST

ARE YOU SURE Y/N

F1 TO RETURN TO MENU

Initially, you will just see a blinking cursor next to the colon. Now remove the Copy II 64/128 disk and insert the disk that has the file you wish to delete. The file name (TEST in the above example) can contain up to sixteen characters, including special characters called "wildcards". Wildcards are special symbols that match any character in that position. The two wildcards recognized by Copy II 64/128 are "?" and "*". A "?" will match the character at the position of the

"?". A "*" will match all characters from the position of the "*" and on. For example, entering a name of "TEST*" will match "TEST", "TEST2", and "TESTER". Entering "TEST?" would match both "TEST" and "TEST2", but not "TESTER".

When you have entered the name and pressed the "return" key, Copy II 64/128 will ask "ARE YOU SURE Y/N". Press the "Y" key if you are certain you wish to delete the file. Otherwise press the "N" key.

After Copy II 64/128 is finished attempting to delete the files you have specified, it will display a message similar to the one below:

01, FILES SCRATCHED , 05, 00

The "01" above is simply the Commodore DOS code that says an attempt was made to delete a file(s). The "05" in the above example shows how many files were actually deleted. If it displays a "00", then no files were deleted from the disk. The last number indicates the drive number from which files were deleted. This should always be a 00. (Note this is the drive number, not the device number used by the Bit Copy program.)

Quick Format

If you select option 3 from the main Copy II 64/128 menu, you should see a screen similar to the one below:

COPY II 64/128 VERSION x.x

QUICK FORMAT

DISK NAME: COPY II

DISK ID: 64

VERIFY FORMAT? Y/N

F1 TO RETURN TO MENU

Quick format will ask you for the name you wish to use for the new disk. The name you select can be up to sixteen characters long.

After you enter a name, Copy II 64/128 will ask you for the DISK ID. You must enter any two characters for the ID.

If you have a 1541 drive, Copy II 64/128 will next ask you if you wish to verify the format. Verifying the format takes almost twice as long, but guarantees that you have a good disk. (Formatting a disk is fast - it only takes about 15 seconds to format a single sided disk without verify.) Note that if you have a 1571 drive, it will not ask you if you wish to verify the format - it will do it automatically for you.

Using the Fast Loader

Option 4 from the main Copy II 64/128 menu lets you quit to basic with the fast loader active. The fast loader is completely transparent and you don't need to do anything additional to use it. It will speed the loading of most programs for the Commodore 64 by 200 to 300 percent!

Note that if you have a Commodore 128 and 1571 drive, the fast loader will not be left active (nor will it appear on the main menu). This is because the Commodore 128 and 1571 drive already have a fast loader built-in. You won't need to use the Copy II 64/128 fast loader.

If you want, you can use the fast loader independent of Copy II 64/128. It is on the Copy II 64/128 disk under the name "FAST". To run it, type:

```
LOAD "FAST",8,1
```

Any further disk access you do (until you turn off the power) will use the fast loader routines.

Please note that some commercial programs may not load with the Copy II 64/128 fast loader. This is because they have their own loaders and may disconnect the Copy II 64/128 fast loader. Most programs, however, use the fast loader without problem.

Other Wonderful Products

Central Point Software also sells these other disk utility and software backup products:

COPY II PC is the most complete copy program available for the IBM Personal Computer. It backs up most protected diskettes with no parameter changes, and uses all available memory to make reliable copies -- fast. You can also run popular software such as Lotus 1-2-3 and Symphony from your hard disk without inserting the original floppy diskette. **COPY II PC** includes a disk speed test to help keep your drives in top running order. For IBM PC, XT, AT, 256K jr. (\$39.95)

COPY II PC OPTION BOARD is a hardware based disk backup system providing the utmost in disk backup capability. Most protection schemes rely on quirks of the floppy disk controller built into the IBM PC. The **OPTION BOARD** simply replaces the floppy disk controller with much more powerful disk duplication circuitry. Unless the original disk has been physically damaged, the **OPTION BOARD** can copy it. It also includes a track/sector editor that will allow you to analyze protection schemes. The **OPTION BOARD** requires an IBM PC, XT, AT (with at least one 360KB floppy), COMPAQ Deskpro or COMPAQ portable computer with one full size slot available. (\$95).

PC TOOLS is our complete DOS utility package for the IBM PC and nearly all compatible computers. **PC TOOLS** combines all the popular features of the Norton Utilities with a powerful DOS interface in a single, easy-to-use resident program. With **PC TOOLS**, you can execute nearly any DOS command within any other running program. For example,

UNDELETE an accidentally erased file while using your word processor!

FORMAT a data disk without leaving your spreadsheet!

COPY files from one subdirectory to another within your communications program!

LOOK at another file (and even edit it) from your graphics package!

SEARCH for any file name or text within a file without leaving your data base!

PRINT a file (as text or hex and ASCII) at any time!

PC TOOLS works with virtually all IBM compatibles with at least 192K of memory (256K or more is recommended to use the resident feature). (\$39.95)

COPY II MAC is a disk backup and utility package for Macintosh computers. Combining all the most needed functions, COPY II MAC will let you make archival backups of your protected software easily. No parameters are needed. COPY II MAC also includes our powerful utility program "MacTools". MacTools can recover damaged disks and undelete files. It will also display all files on a diskette, including invisible files, and will let you make them visible again. You can mark any file as protected, unprotected, locked, or unlocked. Its block editor shows you what is inside any Macintosh file, and allows you to change it. Our "COPY II HARD DISK" application, also included on the disk, can copy many popular protected programs onto a hard disk. (\$39.95)

COPY II PLUS is a sophisticated yet easy-to-use utility and software backup product for the Apple II compatible computers (Apple II, II Plus, //e, //c, and Laser 128). COPY II PLUS can make back-ups of many popular protected programs. The Bit Copy option handles synchronized tracks, quarter tracks, bit insertion, spiral tracks, and other common protection schemes. The utilities are completely menu-driven, with convenient file selection. Options include copy files, disk, DOS; delete files, disk, DOS; Lock/unlock files; alphabetize catalog; format disk; verify disk, files, drive speed; view files; fix file sizes; track/sector map; change boot program; recover deleted files; sector editor; and catalog with file lengths, hidden characters, and deleted files. COPY II PLUS was voted among the top 30 favorite Apple software products of all time in a survey of Softalk magazine readers.

We update our software products regularly to handle new protections; updates are always available to you as a registered owner at a reduced price. Protection schemes do change frequently so it's a good idea to double check with us if you need to back up a brand new release of one particular program. For more information on our products, call or write:

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